
Rare Risks with Pediatric Cough & Cold Medications - Frankly Speaking EP 39

Transcript Details

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Dr. Frank Domino:

It's mid-January and you're seeing a six-year-old girl with a terrible upper respiratory tract infections. Her parents are exhausted, as is she, because of her runny nose and cough that's been keeping her up all night. The parents have been giving her honey to try to help with the cough, but they're looking for something else to try to make their daughter feel better. Mom knows that there's no medical data on the use of over-the-counter agents helping colds get better faster, and has already been giving her ibuprofen to try to provide her some comfort, but she wonders, "Is there anything else we can do?" This is Frank Domino, Professor in the Department of Family Medicine and Community Health, and joining me today, is Susan Feeney, Doctor of Nurse Practitioner, and Assistant Professor and Coordinator of the Family Nurse Practitioner program at the University of Massachusetts Medical School Graduate School of Nursing. Thanks for coming, Susan.

Susan Feeney:

Thanks, Frank. What is the data on using over-the-counter agents for colds and symptoms in children, and why did the American Academy of Pediatrics recommend against their use?

Dr. Domino:

Well, the second question's very intriguing. They recommended against it, because there is no data that shows using a cough suppressant, or a decongestant, or a classical antihistamine,

makes children, or even most of us, get better faster. Viral infections have to run their course, your body's immunity needs to take care of it, and these agents don't necessarily help shorten the illness, or decrease the adverse effects of those illnesses. In some cases, there's even a little bit of data that shows they make things worse. For example, classic antihistamines, while they may dry up some secretions, can induce constipation, and can cause drowsiness or excitation in children, and adults, and so their role is pretty limited. We know that things like guaifenesin and other cough suppressants, even codeine, really don't help. They only, if anything, provide placebo benefit, and sometimes cause even worse outcomes. So why give them, if they're not gonna shorten the illness? And why give them, if they're gonna potentially cause an adverse outcome? And I think those are all real reasonable questions. We need to keep the child hydrated, keep their fever under control for some comfort, and do their best to make the child, and the rest of the family, not get any further illness.

That being said, sometimes there's a role for symptomatic care. Again, not necessarily to shorten an illness, but just to make the child and the family feel better. And so I think we need to, at least, keep an open mind about using agents where you're providing symptomatic control. The big issue that we worry about is serious adverse events, and this paper published in Pediatrics in 2016, collected 4,200 cases of an adverse outcome associated with over-the-counter cough and cold agents in children. And what they found was that the vast majority of those adverse events were associated with accidental, unsupervised ingestions, meaning that the ability for the child to access the medication was not protected, the child was able to get into it, and consume at a very high dose. Only a small degree were associated with dosing errors by the patients, less than 15%.

Susan Feeney:

My question, just is that there was some data that there aren't really good dosing recommendations for the very young children, like two and under. And I know that as kids get older, we have a little bit more data on what's an appropriate dose.

Dr. Domino:

Right. We don't know what... And American Academy and Pediatric says, "Even four and under, we should have some hesitation." I think, based upon weight, you can try to calculate this... What's really challenging, is that many of these agents are multi-drug, and so that's where I think some of the concern falls, is that when you're trying to give a dose of an alpha-agonist, to help dry up secretions, and then you've got a dose of guaifenesin as well, as possibly the antihistamine. Dosing's really challenging and often impossible with agents that contain more than one chemical.

Susan Feeney:

Right. What can we recommend then, to your patient and her mom?

Dr. Domino:

Well, I think when we think about adverse events, worst case scenario is death, and so we wanna do nothing that's going to increase that risk. In this study of 4,200 cases, there were 20 cases of death. Most of that occurred in children under the age of two, so if you set two as your cut-off, you'll be very safe to cause any serious adverse event. Most of those cases were when a therapeutic dose was far exceeded, so the parent or the caregiver gave a dose that was highly inappropriate for the child. And I think there's actually some great literature that shows using a dosing syringe is the safest way to provide any dose to a child. My mom always had a teaspoon, and I'm certain more of it appeared on the floor, and the ceiling, than in my system. So use a dosing syringe, not a teaspoon, not a dosing cup, and that'll dramatically lower that risk. Use age two and above as the absolute minimal cut off, and even four and above is probably the most safe. But if I'm gonna give a child something for symptomatic care, and they have lots of secretions, I think what we have the best data on, and what's known to be safe, and somewhat effective, is a single agent like phenylephrine. It normally comes 2.5 milligrams and 5 cc's, and for a four to five-year-old, 5 cc's can be given up to every four hours, although I would never recommend that.

I would say if the child's having trouble sleeping, I'd give a dose not long before bedtime, maybe

associated with some NSAID like ibuprofen, and that way, at least the child'll get a little less secretion, sleep a little better, and start to feel better quicker. Maybe if the child was also having quite a bit of daytime symptoms, I'd give a second dose, but I'd encourage the parents that once or twice a day is really the maximum. You're providing symptomatic relief and the real things we need to do are the things we've done forever. Push fluids and make the child comfortable, especially if they're febrile, with an antipyretic like acetaminophen and ibuprofen.

Susan Feeney:

Was there any evidence on the sinus hygiene, or bulb suctioning, or fluid, or steam?

Dr. Domino:

Let's go back from the first. There's great data that shows steam doesn't do anything. It doesn't provide any shortening of illness. It may provide symptomatic relief to a small subset, but not a majority of patients. If that's helping the child, that's awesome. Bulb syringing, the data is out, because, A, children don't have sinuses, and so what you're trying to do is clear their nasal passages and they really don't want a rubber tube stuck up there. We're doing it to treat the parent, not necessarily to treat the child. I think with that in mind, that's a fine thing to consider for infants, but recognizing that maybe you're not necessarily doing the child any benefit.

Susan Feeney:

How would you explain all of this to your patient and your patient's mom?

Dr. Domino:

Well, I think in particular, for parents, you have to remind them that colds are a necessary part of life, developing immunity is what's happening, and so the child being ill, while it's unfortunate, is unlikely to be life-threatening, and making the child symptomatically improved is our mission. And so do as little harm as possible, keep them happy, keep them hydrated. Parents often worry, because the child'll go two to three days without actually eating any solid foods or any real foods, that's okay. Give them some soup, give them something to take care of their discomfort like acetaminophen and ibuprofen, which can, by the way, be given at the same time, every six

hours, and that actually lowers the risk of overdose, and just be patient. If you really need to use something, wait 'til age greater than four, and use a single-dose agent like phenylephrine dosed at a very reasonable way, and be patient.

Susan Feeney:

And you can get those syringes pretty easily at the pharmacy?

Dr. Domino:

Every pharmacy, every convenience store typically sells them. But if you've got a parent who's on the edge, or you're concerned, or they're overwhelmed, we often have 5 and 10 cc syringes in the office, don't be afraid to share one.

Susan Feeney:

Okay.

Dr. Domino:

Susan, thanks so much for helping me discuss the case of my poor little six-year-old and her family.

Susan Feeney:

Thanks, Frank.

Dr. Domino:

Practice pointer. Use of pediatric cold and cough medications is associated with a very small, but real adverse event rate. Use caution and remember the goal of treating upper respiratory tract infections in children is to provide comfort care. Join us next time, when we talk about the risks of using sulfonylureas in the treatment of Type II diabetes.